

Remarks

Claim 29 is rejected under 35 U.S.C. 103(a) over Dare et al. US 4,215,749.

Applicants respectfully request reconsideration.

The Office Action concludes that Dare does not disclose the claim limitations including the specific weight of the lower package (between 10 and 30 tons), or a bore greater than 7 inches, or the ability to perform repeated severing of tubulars of at least 2 3/4 inches. The Office Action respectfully overlooks that Dare does not disclose that the lower package can be attached to a subsea well regardless of whether it comprises a vertical or horizontal Christmas tree.

1st Argument: Not only does Dare not show the three elements discussed in the preceding paragraph, but Dare also fails to show another element.

Dare does not show a lower package attachable to said subsea well regardless of whether said subsea well comprises said vertical Christmas tree or said horizontal Christmas tree as per the language of claim 29. In fact, Dare is limited to use with a vertical Christmas tree, such as that shown in Applicants' FIG. 5B. (See Dare, Col. 3, lines 2-12). Thus, not only is Dare missing the above three limitations, namely a specific weight of the lower package (between 10 and 30 tons), or a bore greater than 7 inches, or the ability to perform repeated severing of tubulars of at least 2 3/4 inches, but Dare fails to disclose this element either.

In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. See M.P.E.P. 2143.03.

Because the above elements of claim 29 are not shown clearly and particularly, and in fact are not shown at all, the rejection is traversed.

2nd Argument The proposal of obviousness is contrary to the known state of the art.

The Office Action essentially proposes that it is obvious to provide any size valve bore in the intervention package, provide any cutting abilities, and still stay within the required weight as per the claim limitations. The Office Action concludes that these features are an obvious design choice, that the ranges are not shown to solve a particular problem, and that it appears other ranges would work equally well. Furthermore, the Office Action concludes that these features could be achieved with routine experimentation. Applicants respectfully submit these statements are simply incorrect.

Applicants' application begins "The maximum internal diameter is a critical dimension for an intervention package" Clearly, Applicants have pointed out the importance of this dimension. Those of skill will know that one cannot remove the cap, any plugs or packers, unless one provides an opening through which these elements will fit. The smaller the borehole of the intervention package, the more limited is its usefulness. The prior art teaches lowering a massive BOP, at great time and expense, to provide this size bore opening and other features provided by Applicants' design. Applicants' provide a solution that drastically reduces the cost and time to provide the same features.

Problems of providing the claimed dimension are well known, long standing, extremely expensive, and difficult to those of skill in the art. So far as is known, Applicants' downhole valve is the only large bore valve, other than a BOP, to be certified as capable of cutting tubing, as well as coiled tubing and wireline. Yet, the claim language clearly rules out the BOP as an option to provide these features by requiring use of a gate valve for these features. The weight and size of the intervention package are obvious problems when designing valve internal bore size. Given the long term failure of the prior art to provide the claimed features, the Examiner is respectfully requested to explain how Dare will simply increase the size of his components, and still remain within the required

weight range. Dare himself is quite excited to claim only much more limited capabilities (see argument 4). It will also be appreciated that pressure acting on seals (which must also operate to cut without damaging the seals) increases exponentially with the valve diameter. This seal must be able to operate along with the cutting function, a problem that is greatly exacerbated with increased bore size. It is also well known that merely taking a large valve that works on the surface, sealing off the valve housing, and placing it in a subsea environment does not provide a solution. Not only are there obvious size and weight problems, but the sea depth internal and external hydrostatic pressures operating on the valve components can render a valve designed for surface operation inoperable for subsea operation either immediately or over time.

Dare provides no guidance to those of ordinary skill in the art how to build a device with the claimed features, and in fact Dare is quite happy to claim much different capabilities (see argument 4). Given the longstanding failure of the industry to provide a solution to the problem of providing these features in a lightweight solution, there is not a reasonable expectation of success in providing a lower package that provides the claimed limitations.

Recently published examination guidelines promulgated by the USPTO to assist Office personnel in making a proper determination of patentability of claims under the obviousness standards of 35 U.S.C. 103(a), and being based on *KSR International Co v Teleflex, Inc* require:

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reasons why the claimed invention would be obvious.

The guidelines set forth seven rationales to support an obvious rejection and findings of fact that must be articulated for each rationale. The guidelines do not set forth a rationale whereby it is obvious to one of skill in the art to make a modification that overcomes a difficult, long-standing, unsolved problem without any explanation as to how one of skill will overcome the problem. Neither the Office Action nor Dare provides any

teachings or explanation, as is required to explain how the solution to such a difficult, long-standing problem can be solved by merely changing dimensions or other routine experimentation, when that procedure has clearly not yielded results in the past. Accordingly, the rejection is respectfully traversed.

3rd Argument When others have tried and failed to solve a problem, the law is clear that the non-obviousness is indicated.

Under M.P.E.P. 2141.01, Scope and Content of the Prior art, Section III entitled "Content of the Prior Art Is Determined at the Time the Invention Was Made to Avoid Hindsight," the Examiner is required to ascertain the state of the prior art prior to the invention. **Moreover, the law is clear that non-obviousness of a solution is strongly evidenced when experts in the art have tried and failed to solve long-standing problems.** (Emphasis added)

The only solution ever found in the prior art was the use of BOPs, which are not within this weight range. Accordingly, the proposed claim is not obvious because those of ordinary skill in the art have long tried to reduce the costs of using BOP's while providing a large bore and the ability to cut large tubulars, and have failed to solve the problem.

4th Argument Dare specifically contradicts the claimed limitations.

Dare is specifically limited to use with "macaroni" tubing (item 46), which is normally only one inch in diameter or less, but may sometimes be two inches in diameter with a wall thickness of about 1/8 inch. See Col. 5, lines 55-60. See also Col. 1, lines 17-29. Col. 3, lines 22-28. Clearly, Dare contemplates use with much smaller, easier to cut pipe.

To modify Dare requires, at a minimum, changing dimension D, the angle of sides 92, notch 94, inclined surface 98, second or low undercut region 100 including angle B and angle D. Moreover, the entire scope of Dare must be changed. Moreover, the designer must stay within the required weight limitations. This is far beyond routine experimentation. Moreover, there appears to little or no chance of success, given the long

term failure of those of skill in the art to provide these critical features prior to Applicant.

The ability to provide a 7-inch borehole means that many services can be performed, such as removal of packers and plugs, which cannot be performed using the Dare device. Clearly, the Dare device is limited to use in controlling relatively small boreholes. For example referring to the drawing, and assuming a 2-inch OD macaroni string, it appears the Dare bore is perhaps 2 3/4 at best.

An obviousness analysis requires consideration of "whether the prior art would also have revealed that in so making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success."; *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).

There is no reason to believe that it is remotely possible to modify Dare to comply with Applicants' claimed limitations.

Summary

Due to the many shortcomings of the Dare reference discussed above, Applicants respectfully submit that the application now stands in condition for allowance.

Respectfully submitted,

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